

Appl. No. 09/848,002
Amdt. dated May 3, 2005
Reply to Office Action of May 10, 2004

Remarks

The present amendment responds to the final Official Action dated March 25, 2005. The Official Action rejected claims 1-12 under 35 U.S.C. §103(a) based on Dowling et al. U.S. Patent No. 5,995,086 ("Dowling") in view of NEC Corporation, "Character Pattern Editor for On-Screen Display of LSI for Windows", User's Manual, November 2000 ("NEC"). This sole ground of rejection is addressed below following a brief discussion of the present invention to provide context.

Claims 1-12 are presently pending.

The Present Invention

A dot matrix display design tool according to the present invention is preferably implemented in software on a computer. The display design tool includes a character set designer, allowing a user to construct a character set comprising a set of characters having any one of a number of matrix sizes. Matrix sizes are typically expressed as X by Y, where X is a number of pixel columns and Y is a number of pixel rows. The character set designer allows the user to specify the matrix size and create a design for each character in the character set, with the user being allowed to specify pixel values for each location in a matrix.

Additionally, the design tool also includes a display designer for use once a character set has been created. The display designer allows the user to vary desired characteristics of the visual appearance of a contemplated display, such as matrix dimensions, pixel shape, inter-pixel separation and other characteristics. The display designer displays a value for modifiable display

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characteristics. These values are therefore readily available for analysis in order to evaluate unit costs or to provide engineering specifications needed in manufacture of a display.

Furthermore, the design tool further includes a display viewer which allows a user to simulate an operating hardware display, and to specify and view additional characteristics of the contemplated display, such as display labeling, housing shape and color. The user is also able to specify operating characteristics such as message frequency, scrolling speed and frequency, interword spacing and punctuation spacing. The user is thus able to view a "virtual" hardware device, for example a "virtual" electronic price label, which exists simply as a display on a computer monitor but which allows the user to see how the device would appear when manufactured and to modify the operating characteristics of the device in order to achieve the desired characteristics.

The Art Rejections

As addressed in greater detail below, Dowling and NEC do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicant does not acquiesce in the analysis of Dowling and NEC made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

Claims 1-12 were rejected under 35 U.S.C. §103(a) based on Dowling in view of NEC.

Dowling describes creating different fonts by varying font variables such as width, weight, size

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and style which are characteristics shared by each character in the character set. More specifically, Dowling describes a method for making modifications to character specific attributes when the specified combination of font variables results in an artistically displeasing character at predetermined thresholds. Dowling, col. 3, lines 24-29 and col. 4, lines 51-52. In Dowling's approach, a threshold value of a font variable is determined so that a character specific attribute is modified differently in a character whose font variable exceeds the threshold than the same character whose font variable does not. See, Dowling, col. 4, lines 31-49. Such exception processing on characters whose font variable exceeds a threshold has no apparent relevance with respect to the problem of evaluating the appearance of dot matrix designs as taught and claimed by the present invention.

NEC teaches a character designer and editor, allowing creation of character sets and display and modification of the character sets as part of the character set design process. As implicitly admitted by issuing a new rejection based on NEC in combination with Dowling in the Official Action, NEC does not teach receiving operating characteristics entries allowing specification of operating characteristics of an operating display to be emulated and display of a text input specified by a user. Further, NEC does not teach a set of editing tools to allow modification of the display in response to selections made by a user, with the editing tools allowing for modification of the character set and the operating characteristics of the display, with modifications made using the editing tools being reflected in the appearance of the text as presented by a display emulator.

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Unlike Dowling and NEC, the claimed invention addresses the problem of evaluating the appearance of a contemplated display. The present invention, as claimed by claim 1, allows for emulation of an actual display device exhibiting specified operating characteristics and displaying specified text that is part of a specified character set, and modification of characteristics of the contemplated display device, with the results of the modification being immediately visible. Such emulation allows a designer to see the appearance of a design and to investigate the effects of design choices, in contrast to Dowling and NEC, which are directed simply to the design of a character set rather than to the overall design of a display device.

Referring to Fig. 6 of the present specification, for example, an operating characteristics interface includes editing tools for changing the appearance of the contemplated display such as a contrast editor 614, a pixel height to width ratio editor 616, an inter-pixel row spacing editor 618, an inter-pixel column spacing editor 620, and an inter-character spacing editor 622, inter-word spacing 624, a scroll frequency 630, and the like. With the operating characteristics interface as claimed, a designer may advantageously evaluate a contemplated display. Claim 1 recites "an operating characteristics interface for receiving operating characteristics entries specifying operating characteristics of an operating display to be emulated, the display designer further including a display emulator presenting a representation of the operating display...the display designer further including a set of editing tools to allow modification of the display in response to selections made by a user, the editing tools supporting modification of the character set and the operating characteristics of the display, modifications made using the editing tools being reflected in the appearance of the text as presented by the display emulator."

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Dowling and NEC, taken separately or in combination, do not teach and do not suggest “an operating characteristics interface for receiving operating characteristics entries specifying operating characteristics of an operating display to be emulated, the display designer further including a display emulator presenting a representation of the operating display,” as claimed in claim 1. Dowling merely addresses a threshold value for a font variable which is set by a font designer to determine whether to modify a characteristic of a character whose value exceeds the threshold differently than the same character whose value does not. NEC merely addresses a character pattern editor.

Specifically, the Official Action relies on col. 1, line 65 – col. 2, line 2 of Dowling as purportedly suggesting the above feature. Applicant respectfully disagrees. The cited text refers to font generation based on a set of font variables to describe an entire character set and, like the rest of Dowling and NEC, has nothing to do with evaluating a contemplated display.

Dowling and NEC, taken separately or in combination, do not teach and do not suggest “the editing tools supporting modification of the character set and the operating characteristics of the display, modifications made using the editing tools being reflected in the appearance of the text as presented by the display emulator,” as claimed in claim 1. Dowling’s disclosure is silent with respect to any editing tools. NEC’s editing tools merely address developing a character pattern by editing characters on a pixel basis without regard to the operating characteristics of a display.

See also claim 10 where it recites “the display of the message presenting text specified by the user and being presented as the message would appear in an operating display using the

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selected character set design and exhibiting operating characteristics chosen in response to user specifications.” Dowling and NEC, taken separately or in combination, do not teach and do not suggest presenting “the message” as it “would appear in an operating display using the selected character set design and exhibiting operating characteristics chosen in response to user specifications,” as claimed in claim 10. Furthermore, Dowling and NEC, taken separately or in combination, do not teach and do not suggest “modifying aspects of the design in response to user selections, the appearance of the display of the message being immediately altered to reflect each user selection,” as claimed in claim 10. (emphasis added). NEC merely addresses editing a particular character, one character at time, and is silent with respect to how a message would appear in a display “exhibiting operating characteristics chosen in response to user specifications,” as claimed.

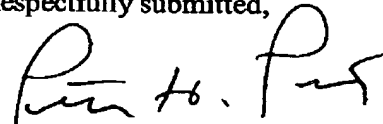
The relied upon references fail to recognize and address the problem of evaluating a contemplated display in the manner advantageously addressed by the present claims. The claims are not taught, are not inherent, and are not obvious in light of the art relied upon.

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Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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